Data Mapping of the
Public Land Survey System (PLSS) CadNSDI to GeoCommunicator Formats

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National Operations Center
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Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

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Executive Summary

The BLM is distributing the Public Land Survey System (PLSS) data to the public in the new CadNSDI 2009 publication format through GeoCommunicator. This document provides detailed data mapping of the new CadNSDI Publication format to the existing PLSS publication format used in GeoCommunicator. It also describes the mapping for other formats used to provide data and services in GeoCommunicator. BLM will provide distribution of the new CadNSDI PLSS publication format and the GeoCommunicator PLSS legacy format for a limited time. After a specified timeframe only the CadNSDI format will be available. The primary purpose of this document is to define the CadNSDI to GeoCommunicator LD & LSIS mapping, with the GCDB coverage information included for reference purposes.

The new CadNSDI data is available in File Geodatabase format by state and includes a complete coverage for the western states. It is the intention of the BLM to provide the capability to download data by county and by user defined area in the future. Because of time constraints, this functionality could not be implemented with the new distribution of the CadNSDI data. The cadastral publication data is standardized so it can be integrated across jurisdictional boundaries, from county-to-county and from state-to-state forming a seamless, non-overlapping representation of land parcels and cadastral reference data.

Background: The Federal Geographic Data Committee (FGDC) Cadastral Subcommittee published the new Cadastral Data Publication Guidelines (http://www.nationalcad.org/data/documents/Cadastral%20Publication%20Guideline%20and%20Template.pdf) in May 2009 (with final corrections in October 2009). The Cadastral Data Publication Guideline describes the minimum set of attributes about land parcels and associated reference data that are used for publication and distribution of cadastral information by cadastral data producers. The templates that accompany the guideline provide physical implement formats and data structures for the publication data sets. Cadastral publication data has two primary components, land parcel data and cadastral reference data. It is important to recognize that the publication data are not the same as the operation and maintenance or production data. The production data is structured to optimize maintenance processes, is integrated with internal agency operations and contains much more detail than the publication data. The publication data is a subset of the more complete production data and is reformatted to meet a national standard so data can be integrated across jurisdictional boundaries and be presented in a consistent and standard form nationally.

OMB Circular A-16, as Revised, designated BLM as the lead federal agency for cadastral spatial data. Cadastral data is defined as the geographic extent of past, current, and future right, title, and interest in real property, and the framework to support the description of that geographic extent. The geographic extent includes survey and description frameworks such as the Public Land Survey System, as well as parcel-by-parcel surveys and descriptions

A. The CadNSDI Publication Format Data and Data Quality Improvements

Not only are there changes between the new and the present publication formats but the data quality and standardization has been improved. The new CadNSDI provides the following improvements:

1. Reduction in the multiple use of codes to indicate different survey conditions.
2. Standardization in some coding differences between states (e.g., half townships are now coded consistently between states).
3. Known survey boundary conflicts have been identified and provided in the "Conflicted Areas" feature class.
4. Data between feature classes should be consistent and vertically aligned (e.g., the positions of corners are aligned exactly with the nodes that represent this same location in the polygon).
5. Resolution of some topology issues (e.g., overlaps and gaps, especially between townships).
6. Precision of original source data was retained to the degree possible (e.g., coordinate values that define geometry have not been rounded).
7. A number of "stacked" polygon situations were eliminated. Work will continue on the data to eliminate all duplicate geometry or stacked polygons within the same feature class.
8. The source of all data has been recorded in the metadata (e.g., the term "alternate source" is no longer a valid entry).
9. A higher degree of integrity has been retained between source data and the GIS as well as between GIS feature classes.
10. Within the Special Survey feature class, multiple polygons that comprise the special surveys have been aggregated to provide single parcels with total acreages.
11. Most state boundaries have been edge matched. Work is preceding to edge match all state boundaries that are coincident with the PLSS (e.g., the diagonal boundary between California and Nevada).

B. Overview of the CadNSDI to Existing GeoCommunicator Publication Format

General Overview of new CadNSDI and old LSIS formats		
	CadNSDI	**GeoCommunicator LSIS**
Data format for download:	File geodatabase available for download by state includes a complete coverage for the state including data from other sources. County selection will be available in the future.	Shapefiles available for download by state and county.
Feature classes:	Additional feature classes include ConflictedAreas, MeanderedWater, MetadataGlance, PLSSQuarterReference, PLSSReferenceGrid.	
Point data:	Point data is available as a feature class.	Point data is available for download through Survey Exporter.
Line data:	Line data is not available.	Line data is available for download through Survey Exporter.
Minor subdivision data:	Minor subdivision data are standardized with other aliquot part data coded as A in SECDIVTYP.	MINORSUB attribute is supported in LADESC.
Special survey data:	Special survey data is supported in PLSSSpecialSurvey.	Special survey data is supported in LADESC.
Survey types:	SECDIVTYP attribute is populated with survey types A, B, L, O, U, Z. SURVTYP attribute is populated with the remaining survey types.	SURSYS attribute is populated with all survey types.

C. Detailed Data Schema Mapping Overview

The following databases described below are used in the data mapping tables. The databases have different schemas as shown in the data mapping tables. Updating GeoCommunicator formats and data to the new standard will be determined at a later time.

1. **CadNSDI** – New Cadastral PLSS publication format used for PLSS distribution from GeoCommuncator.
2. **LD** (Land Description) Geodatabase – Database used in the BLM internal transaction system and GeoCommunicator web services. The LD Geodatabase is used for the following processes:
    a) Create/maintain process for the electronic generation of LR2000 records.
    b) Find Land Description (LD) - GeoCommunicator web service for passing in a land description and having the spatial data returned.
    c) Derive Land Description (LD) - GeoCommunicator web service for passing in a spatial polygon and having the land description. returned
    d) Township GeoCoder - GeoCommunicator web service for passing in a latitude and longitude and having the land description returned or pass in a land description and have the centroid latitude and longitude returned.
    e) Survey Exporter - GeoCommunicator web service for exporting survey points, lines, and coordinates in many formats.
3. **LSIS** (Land Survey Information System) Geodatabase
    a) PLSS format used for PLSS distribution through GeoCommunicator prior to CadNSDI format.
    b) PLSS format used by GeoCommunicator Interactive Maps.
    c) PLSS format used by GeoCommunicator Streaming Services: ArcIMS, Web Mapping Services (WMS), ArcGIS
4. **GCDB** v1.04 Coverages

Schema Differences - Summary			
	CadNSDI	**LD**	**LSIS**
point data	POINTID format = AZ140010N0010E0_100100 includes a trailing “0” to indicate non-duplicates	pointname format = 100100_AZ14T0010N0010E includes “T” and no trailing “0” to indicate non-duplicates	feature class is not supported, point data is available through Survey Exporter
line data	not supported		feature class is not supported, line data is available through Survey Exporter
duplicate code data	non-duplicate parcels are represented with a “0”	non-duplicate parcels are represented with no value	non-duplicate parcels are represented with no value
date data	revised dates exist in PLSSSpecialSurvey and PLSSPoint, otherwise date data is not supported	includes date data (date created, date modified)	includes date data (date created, date modified)
minor subdivision data	not supported as a separate attribute	supported in PLSSThirdDiv	supported in LADESC
PLSSID / township/LNDKEY data	PLSSID format = AZ140010N0010E0 includes a trailing “0” to indicate non-duplicates	township format = AZ14T0010N0010E includes “T” and no trailing “0” to indicate non-duplicates	LNDKEY format = AZ14T0010N0010E includes “T” and no trailing “0” to indicate non-duplicates
steward data		STEWARD is not supported	STEWARD is not supported
section fraction data	not supported	firstdivisionfraction is supported	SECFRT is supported
special survey data	supported in PLSSSpecialSurvey	supported in SpecialSurvey	supported in LADESC
survey type data	supported at multiple levels: SURVYTYP, SURVTYPTXT (PLSSTownship, PLSSFirstDivision, PLSSSecondDivision, PLSSIntersected, PLSSSpecialSurvey)	supported in PLSSThirdDiv and SpecialSurvey	supported in LADESC
survey types	SECDIVTYP attribute is populated with survey types A, B, L, O, U, Z SURVTYP attribute is populated with the remaining survey types (U can be found in both SECDIVTYP and SURVTYP)	surveytype is populated with A,B,L,O,T, U in PLSSThirdDiv surveytype is populated with the remaining survey types in SpecialSurvey	SURSYS attribute is populated with all survey types

D. Detailed Data Schema Mapping

Detailed data mapping is provided for the following CadNSDI feature classes: PLSSTownship, PLSSFirstDivision, PLSSSecondDivision, PLSSIntersected, PLSSSpecialSurvey, PLSSPoint.

PLSSTownship

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
									GCDB region.twp	**GCDB_NAD83 region.twp**	
									AREA	AREA	
									PERIMETER	PERIMETER	
									GCDB#	TWP#	
									GCDB-ID	TWP-ID	
PLSSTownship	STATEABBR	Text (2)	State abbreviation code two letter postal code.	PLSSTownship	statecode	TWNSHP	STATE		STATE_CD	STATE_CD	
PLSSTownship	PRINMERCD	Text (2)	Principal meridian code from the BLM PM Code list.	PLSSTownship	principalmeridian	TWNSHP	PRIMER		PRINMER_CD	PRINMER_CD	
PLSSTownship	PRINMER	Text (40)	Principal meridian name as a text.								
PLSSTownship	TWNSHPNO	Text (3)	Township number. The Township Number indicates the number of rows of townships, north or south from a Public Land Survey System Origin.	PLSSTownship	tierdesignator	TWNSHP	TOWN		TIER_NO	TIER_NO	
PLSSTownship	TWNSHPFRAC	Text (1)	Township fraction. Township Fractions are created when there are gaps between surveyed Township boundaries or due to excess size in Townships that arose from executing original surveys.	PLSSTownship	tierfraction	TWNSHP	TWNFRT		TIER_FRAC	TIER_FRAC	
PLSSTownship	TWNSHPDIR	Text (1)	Township direction. The direction of a row of Townships from a Public Land Survey System Origin. These are typically North and South in the West but may be East and West in Ohio.	PLSSTownship	tierdirection	TWNSHP	TWNDIR		TIER_DIR_CD	TIER_DIR_CD	
PLSSTownship	RANGENO	Text (3)	Range number. The Range Number indicates the number of columns of townships, east or west from a Public Land Survey System Origin.	PLSSTownship	rangedesignator	TWNSHP	RANGE		RANGE_NO	RANGE_NO	
PLSSTownship	RANGEFRAC	Text (1)	Range fraction. Range Fractions are created when there are gaps between surveyed Township boundaries or due to excess size in Townships that arose from executing original surveys.	PLSSTownship	rangefraction	TWNSHP	RNGFRT		RANGE_FRAC	RANGE_FRAC	
PLSSTownship	RANGEDIR	Text (1)	Range direction. The direction of a column of townships from a Public Land Survey System Origin. These are typically East or West in the west but may be north or south in Ohio.	PLSSTownship	rangedirection	TWNSHP	RNGDIR		RANGE_DIR_CD	RANGE_DIR_CD	
PLSSTownship	TWNSHPDPCD	Text (1)	If there are multiple townships in a Public Land Survey System Origin, State and Survey Name, the Township Duplicate Status is used to establish uniqueness. When more than one Public Land Survey System Township has the same Township and Range numbers and directions and fractions, and are in the same State, this attribute is used to distinguish among duplicate values.	PLSSTownship	towndupcode	TWNSHP	TWNDUP	non-duplicates are represented by a “0” in CadNSDI and by no value in LD and LSIS	TOWNSHIP_DUP_CD	TOWNSHIP_DUP_CD	
PLSSTownship	PLSSID	Text (16)	Concatenation of the principal meridian, township, range, and duplication code that form a unique id.	PLSSTownship	township	TWNSHP	LNDKEY	Format Difference: CadNSDI = AZ140010N0010E0 LD = AZ14T0010N0010E LSIS = AZ14T0010N0010E	TOWNSHIP	TOWNSHIP	
										TOWNSHIPT	X
PLSSTownship	STEWARD	Text (50)	Data steward for a township.								
PLSSTownship	TWNSHPLAB	Text (20)	Township label that is used for cartographic output or web display.			TWNSHP	LABEL				
PLSSTownship	SRVNAME	Text (60)	The Ohio Named survey area, PLSS original survey areas.								

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CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
PLSSTownship	SECSRVNAME	Text (60)	The secondary name for Ohio survey area, PLSS original survey areas.								
PLSSTownship	SURVTYP	Text (2)	Code of the type of survey. This indicates if the township has been surveyed, protracted or unprotracted (extended).								
PLSSTownship	SURVTYPTXT	Text (50)	Survey type text description.								
				PLSSTownship	townshiptype	TWNSHP	TWNTYPE			TOWNSHIP_TYPE	X
				PLSSTownship	createdby					CREATED_BY	X
				PLSSTownship	datecreated	TWNSHP	DATECREATED			DATE_CREATED	X
				PLSSTownship	modifiedby						
				PLSSTownship	datemodified	TWNSHP	DATEMODIFIED				
				PLSSTownship	documenthyperlink						
				PLSSTownship	plsstownshipid						
				PLSSTownship	createdfromsurvery						

PLSSFirstDivision

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
									GCDB region.sect	**GCDB_NAD83 region.sect**	
									AREA	AREA	
									PERIMETER	PERIMETER	
									SECT#	SECT#	
									SECT-ID	SECT-ID	
									STATE_CD	STATE_CD	
									PRINMER_CD	PRINMER_CD	
									TIER_NO	TIER_NO	
									TIER_FRAC	TIER_FRAC	
									TIER_DIR_CD	TIER_DIR_CD	
									RANGE_NO	RANGE_NO	
									RANGE_FRAC	RANGE_FRAC	
									RANGE_DIR_CD	RANGE_DIR_CD	
									TOWNSHIP_DUP_CD	TOWNSHIP_DUP_CD	
				PLSSFirstDiv	createdby					CREATED_BY	X
				PLSSFirstDiv	datecreated					DATE_CREATED	X

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CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
				PLSSFirstDiv	modifiedby						
				PLSSFirstDiv	datemodified						
PLSSFirstDivision	FRSTDIVID	String (22)	This is a unique identifier for the first division that is built by appending the first division elements on the Township identifier.			FIRST	MTRS	Format Difference : CadNSDI=AZ140010N0010E0SN010 LSIS = AZ14T0010N0010E003			
PLSSFirstDivision	FRSTDIVNO	String (3)	This is the number, letter or designator for the first division of the PLSS Township.	PLSSFirstDiv	firstdivisiondesignator	FIRST	SECTN	Format Difference: CadNSDI = 01 LD = 001 LSIS = 001	SECTION	SECTION	
				PLSSFirstDiv	firstdivisionfraction	FIRST	SECFRT		SEC_FRAC	SEC_FRAC	
PLSSFirstDivision	FRSTDIVDUP	String (1)	This is a code to indicate whether the first division is a duplicated area or identifier.	PLSSFirstDiv	firstdivdupcode	FIRST	SECDUP		SEC_DUP	SEC_DUP	
						FIRST	SECTIONKEY				
PLSSFirstDivision	FRSTDIVTYP	String (2)	This is the type of first division and is commonly the section but may be a lot, parcel, tract or other division.								
PLSSFirstDivision	FRSTDIVTXT	String (50)	This is the first division type as a text field.								
PLSSFirstDivision	PLSSID	String (16)	This is the unique identifier for the PLSS Township in which the first division is located. Concatenation of the principal meridian, township, range, and duplication code that form a unique identifier for the township.	PLSSFirstDiv	township	FIRST	LNDKEY	Format Difference: CadNSDI = AZ140010N0010E0 LD = AZ14T0010N0010E LSIS = AZ14T0010N0010E	TOWNSHIP	TOWNSHIP	
PLSSFirstDivision	FRSTDIVLAB	String (15)	This is the label for the first division that is used for cartographic or web display purposes.			FIRST	LABEL				
PLSSFirstDivision	SURVTYP	String (2)	Code of the type of survey. This indicates if the township first division has been surveyed, protracted or unprotracted (extended).								
PLSSFirstDivision	SURVTYPTXT	Sting (50)	Survey type text description.								
				PLSSFirstDiv	documenthyperlink						
				PLSSFirstDiv	plssfirstdivid						
				PLSSFirstDiv	firstdivisiontype						
				PLSSFirstDiv	areasize						
				PLSSFirstDiv	areaunit						
				PLSSFirstDiv	areasource						
				PLSSFirstDiv	createdfromsurvey						
						FIRST	MC_DENSITY				

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PLSSSecondDivision

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments
PLSSSecondDivision	SECDIVID	Text (25)	Unique identifier for the second division.					Division doesn't exist in GCDB, PLSSSecondDiv was concatenated from PLSSThirdDiv for case mapping purposes.
PLSSSecondDivision	FRSTDIVID	Text (25)	Unique identifier for the first division.					
PLSSSecondDivision	SECDIVNO	Text (50)	Second division number or aliquot part reference.					
PLSSSecondDivision	SECDIVSUF	Text (10)	Second division suffix.	PLSSSecondDiv	seconddivsuffix	QSECTN	QSECTNSUFX	
PLSSSecondDivision	SECDIVTYP	Text (1)	Code of the type of second division.	PLSSSecondDiv	seconddivtype	QSECTN	QSECTNTYPE	
PLSSSecondDivision	SECDIVTXT	Text (50)	Second division type text description					
PLSSSecondDivision	ACRES	Double	Area of the second division in official acres.	PLSSSecondDiv	areasize	QSECTN	LADESCAR	
PLSSSecondDivision	PLSSID	Text (16)	Concatenation of the principal meridian, township, range, and duplication code that form a unique identifier for the township.	PLSSSecondDiv	township	QSECTN	LNDKEY	Format Difference: CadNSDI = AZ140010N0010E0 LD = AZ14T0010N0010E LSIS = AZ14T0010N0010E
PLSSSecondDivision	SECDIVLAB	Text (50)	PLSS Second Division label for cartographic output or web display.					
PLSSSecondDivision	SURVTYP	Text (2)	Code of the type of survey.					
PLSSSecondDivision	SURVTYPTXT	Text (50)	Survey type text description.					
				PLSSSecondDiv	createdby			
				PLSSSecondDiv	datecreated			
				PLSSSecondDiv	modifiedby			
				PLSSSecondDiv	datemodified			
				PLSSSecondDiv	documenthyperlink			
				PLSSSecondDiv	plsssecondivid			
				PLSSSecondDiv	seconddivdesignator	QSECTN	SECTN	
				PLSSSecondDiv	seconddivdesignator	QSECTN	SECTN	
				PLSSSecondDiv	seconddivdupcode	QSECTN	QSECTNDUP	
				PLSSSecondDiv	firstdivisiondesignator			
				PLSSSecondDiv	firstdivisionfraction	QSECTN	SECFRT	
				PLSSSecondDiv	firstdivisiondupcode			
				PLSSSecondDiv	areaunit			
				PLSSSecondDiv	areasource			
				PLSSSecondDiv	issubdivided			
				PLSSSecondDiv	createdfromsurvey			
						QSECTN	QSECTN (NW,NE,SE,SW)	
						QSECTN	LADUNT	
						QSECTN	LADSRC	
						QSECTN	MTRSQ	
						QSECTN	MC_DENSITY	

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PLSSIntersected

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
									GCDB region.ladesc	**GCDB_NAD83 region.ladesc**	
									AREA	AREA	
									PERIMETER	PERIMETER	
									LADESC#	LADESC#	
									LADESC-ID	LADESC-ID	
				PLSSThirdDiv	firstdivisionfraction	LADESC	SECFRT		SEC_FRAC	SEC_FRAC	
										QUARTER	X – used to create quarter.region
				PLSSThirdDiv	minorsubdivision	LADESC	MINORSUB	not supported as a separate attribute in CadNSDI	MINOR_SUB	MINOR_SUB	
				PLSSThirdDiv	areaunit	LADESC	LADUNT			AREA_UNIT	X
				PLSSThirdDiv	areasource	LADESC	LADSRC		ACRE_SRC_CD	ACRE_SRC_CD	
				PLSSThirdDiv	landdescriptiondupcode	LADESC	DESCDUP		DUP_DESC_CD	DUP_DESC_CD	
				PLSSThirdDiv	discrepencycode	LADESC	DISCCD		DISCREPANCY_CD	DISCREPANCY_CD	
				PLSSThirdDiv	surveyruleexception	LADESC	EXCCD		EXCEPTION_CD	EXCEPTION_CD	
PLSSIntersected	STATEABBR	String (2)	State abbreviation code two letter postal code.						STATE_CD	STATE_CD	
PLSSIntersected	PRINMERCD	String (2)	Principal meridian code from the BLM PM Code list.						PRINMER_CD	PRINMER_CD	
PLSSIntersected	PRINMER	String (40)	Principal meridian name as a text.								
PLSSIntersected	TWNSHPNO	String (3)	Township number. The Township Number indicates the number of rows of townships, north or south from a Public Land Survey System Origin.						TIER_NO	TIER_NO	
PLSSIntersected	TWNSHPFRAC	String (1)	Township fraction. Township Fractions are created when there are gaps between surveyed Township boundaries or due to excess size in Townships that arose from executing original surveys.						TIER_FRAC	TIER_FRAC	
PLSSIntersected	TWNSHPDIR	String (1)	Township direction. The direction of a row of Townships from a Public Land Survey System Origin. These are typically North and South in the West but may be East and West in Ohio.						TIER_DIR_CD	TIER_DIR_CD	
PLSSIntersected	RANGENO	String (3)	Range number. The Range Number indicates the number of columns of townships, east or west from a Public Land Survey System Origin.						RANGE_NO	RANGE_NO	
PLSSIntersected	RANGEFRAC	String (1)	Range fraction. Range Fractions are created when there are gaps between surveyed Township boundaries or due to excess size in Townships that arose from executing original surveys.						RANGE_FRAC	RANGE_FRAC	
PLSSIntersected	RANGEDIR	String (1)	Range direction. The direction of a column of townships from a Public Land Survey System Origin. These are typically East or West in the west but may be north or south in Ohio.						RANGE_DIR_CD	RANGE_DIR_CD	

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PLSSIntersected	TWNSHPDPCD	String (1)	If there are multiple townships in a Public Land Survey System Origin, State and Survey Name, the Township Duplicate Status is used to establish uniqueness.When more than one Public Land Survey System Township has the same Township and Range numbers and directions and fractions, and are in the same State, this attribute is used to distinguish among duplicate values.						TOWNSHIP_DUP_CD	TOWNSHIP_DUP_CD	
PLSSIntersected	PLSSID	String (16)	Concatenation of the principal meridian, township, range, and duplication code that form a unique id.	PLSSThirdDiv	township	LADESC	LNDKEY		TOWNSHIP	TOWNSHIP	
PLSSIntersected	STEWARD	String (50)	Data steward for a particular township.								
PLSSIntersected	TWNSHPLAB	String (20)	Township label that is used for cartographic output or web display.								
PLSSIntersected	FRSTDIVID	String (22)	This is a unique identifier for the first division that is built by appending the first division elements on the Township identifier.								
PLSSIntersected	FRSTDIVNO	String (3)	This is the number, letter or designator for the first division of the PLSS Township.	PLSSThirdDiv	firstdivisiondesignator	LADESC	SECTN	Format Difference: CadNSDI = 01 LD = 001 LSIS = 001	SEC_NO	SEC_NO	
PLSSIntersected	FRSTDIVDUP	String (1)	This is a code to indicate whether the first division is a duplicated area or identifier.	PLSSThirdDiv	firstdivdupcode	LADESC	SECDUP		SEC_DUP	SEC_DUP	
PLSSIntersected	FRSTDIVTYP	String (2)	This is the type of first division and is commonly the section but may be a lot, parcel, tract or other division.								
PLSSIntersected	FRSTDIVTXT	String (50)	This is the first division type as a text field.								
PLSSIntersected	FRSTDIVLAB	String (15)	This is the label for the first division that is used for cartographic of web display purposes.								
PLSSIntersected	SECDIVID	String (25)	Unique identifier for the second division.								
PLSSIntersected	SECDIVNO	String (50)	Second division number or aliquot part reference.								
PLSSIntersected	SECDIVSUF	String (10)	Second division suffix.								
PLSSIntersected	SECDIVTYP	String (2)	Code of the type of second division.	PLSSThirdDiv	surveytype			SECDIVTYP is populated with survey types A, B, L, O, U, Z surveytype is populated with survey types A,B,L,O,T, U			
PLSSIntersected	SECDIVNOTE	String (50)	Code for the survey note of the second division								
PLSSIntersected	SECDIVTEXT	String (50)	Second division type text description								
PLSSIntersected	SECDIVLAB	String (50)	PLSS Second Division label for cartographic output or web display								
PLSSIntersected	SURVTYP	String (2)	Code of the type of special survey.					SURVTYP contains the remaining survey types LD SpecialSurvey contains the remaining survey types			
						LADESC	SURSYS	all survey types are contained in one attribute	SURVEY_TYPE	SURVEY_TYPE	
PLSSIntersected	SURVTYPTEXT	String (50)	Special survey type text description.								

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CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
PLSSIntersected	SURVNO	String (10)	Special survey number.	PLSSThirdDiv	surveynumber	LADESC	SURNUM		SURVEY_NUMBER	SURVEY_NUMBER	
PLSSIntersected	SURVSUF	String (5)	Special survey suffix designation that makes the identification of the area unique.	PLSSThirdDiv	surveysuffix	LADESC	SURSUF		SURVEY_SUFFIX	SURVEY_SUFFIX	
PLSSIntersected	SURVNOTE	String (50)	Notes about the polygon feature that are important for using or understanding the feature. From the BLM SurvNotes are A =Approximate Acreage, C = Conflict or Questionable, D = Non-added Acreage.	PLSSThirdDiv	surveynote	LADESC	SURNOTE		SURVEY_NOTE	SURVEY_NOTE	
PLSSIntersected	SURVLAB	String (50)	Label that is used for cartographic output or web display.								
PLSSIntersected	ACRES	Double (no precision or scale)	Area of the second division in official acres.	PLSSThirdDiv	areasize	LADESC	LADESCAR		ACREAGE	ACREAGE	
										ACREAGE_NUM	X
PLSSIntersected	QSEC	String (4)	Quarter section reference	PLSSThirdDiv	quarter	LADESC	QSECTN				
PLSSIntersected	GOVLOT	String (4)	These are the Government Lots.								
PLSSIntersected	QQSEC	String (4)	This is the quarter quarter PLSS reference	PLSSThirdDiv	nominallocation	LADESC	NOMLOC	Format Difference: CadNSDI = NENE LD= A LSIS = A	NOMINAL_LOCATION	NOMINAL_LOCATION	
						LADESC	QQSECTION				
				PLSSThirdDiv	createdby				CREATED_BY	CREATED_BY	
				PLSSThirdDiv	datecreated				DATE_CREATED	DATE_CREATED	
				PLSSThirdDiv	modifiedby						
				PLSSThirdDiv	datemodified						
									LATITUDE	LATITUDE	
									LONGITUDE	LONGITUDE	
				PLSSThirdDiv	subsurfaceonly	LADESC	SUBONLY		SUBSURF_ONLY	SUBSURF_ONLY	
				PLSSThirdDiv	validationcode	LADESC	VALIDCD		VALIDATION_CD	VALIDATION_CD	
				PLSSThirdDiv	documenthyperlink						
				PLSSThirdDiv	plssaliquotid						
				PLSSThirdDiv	aliquotdesignator						
				PLSSThirdDiv	aliquotlevel						
				PLSSThirdDiv	subtypecodealiqdiv						
				PLSSThirdDiv	issubdivided						

Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
				PLSSThirdDiv	createdfromsurvey						
				PLSSThirdDiv	resolutionstatus						

PLSSSpecialSurvey

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments
								Division doesn't exist in GCDB, SpecialSurvey was created for LD.
PLSSSpecialSurvey	SURVTYP	String (2)	Code of the type of special survey.	SpecialSurvey	surveytype	not supported	not supported	
PLSSSpecialSurvey	SURVTYPTXT	String (50)	Special survey type text description.					
PLSSSpecialSurvey	SURVNO	String (10)	Special survey number.	SpecialSurvey	surveynumber			
PLSSSpecialSurvey	SURVSUF	String (5)	Special survey suffix designation that makes the identification of the area unique.	SpecialSurvey	surveysuffix			
PLSSSpecialSurvey	SURVNOTE	String (50)	Notes about the polygon feature that are important for using or understanding the feature. From the BLM SurvNotes are A = Approximate Acreage, C = Conflict or Questionable, D = Non - added Acreage ACRES Double 8 Area in Acres.	SpecialSurvey	surveynote			
PLSSSpecialSurvey	ACRES	Double (none)	Official area of the survey in acres as a number.	SpecialSurvey	areasize			
PLSSSpecialSurvey	SURVLAB	String (50)	Label that is used for cartographic utput or web display.					
PLSSSpecialSurvey	REVISEDDATE	Date (none)	The last date of revision for the special survey, because special surveys represent federal land transactions they may have distinct revision dates.					
				SpecialSurvey	createdby			
				SpecialSurvey	datecreated			
				SpecialSurvey	modifiedby			
				SpecialSurvey	datemodified			
				SpecialSurvey	documenthyperlink			
				SpecialSurvey	specialsurveyid			
				SpecialSurvey	specsurvdesignator			
				SpecialSurvey	firstdivisiondesignator			
				SpecialSurvey	firstdivisionfraction			
				SpecialSurvey	firstdivdupcode			
				SpecialSurvey	nominallocation			
				SpecialSurvey	minorsubdivision			
				SpecialSurvey	areaunit			
				SpecialSurvey	areasource			
				SpecialSurvey	landdescriptiondupcode			
				SpecialSurvey	discrepencycaode			
				SpecialSurvey	surveyruleexpection			
				SpecialSurvey	township			
				SpecialSurvey	subsurfaceonly			
				SpecialSurvey	validationcode			
				SpecialSurvey	subtypecodespecsurv			
				SpecialSurvey	resolutionstatus			
				SpecialSurvey	createdfromsurvey			

Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

PLSSPoint

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
						not supported	not supported		**GCDB.NAT**	**GCDB_NAD83 NODE**	
									ARC#	ARC#	
									GCDB #	GCDB_NAD83#	
									GCDB -ID	GCDB_NAD83-ID	
									SOFTWARE	SOFTWARE	
									ERROR_N	ERROR_N	
									ERROR_E	ERROR_E	
									LINE_CNT	LINE_CNT	
									LINE_TYPE	LINE_TYPE	
									LINE_PEN	LINE_PEN	
									LX_SEC	LX_SEC	
PLSSPoint	POINTLAB	String (6)	PLSS Point label for cartographic output or web display.								
PLSSPoint	POINTID	String (24)	Unique point identifier for the corner that follows the national point identification standard.	POINTS	pointname			Format Difference: CadNSDI = AZ140010N0010E0_100100 LD = 100100_AZ14T0010N0010E	POINT_ID	POINT_ID	
PLSSPoint	PLSSID	String (16)	Concatenation of the principal meridian, township, range, and duplication code that form a unique identifier for the township. If a corner is in multiple townships, on a border, this is the PLSS ID for the lowest GCDB number.								
										LONGPOINT_ID	X
										TOWNSHIPT	X
										CSOURCE_AGENT	X
									X-UTM-ST	X-UTM-ST	
									Y-UTM-ST	Y-UTM-ST	
									X_COORD_NAD27	X_COORD_NAD27	Renamed
									Y_COORD_NAD27	Y_COORD_NAD27	Renamed
										SRC_DATUM	X
									SYM_VALUE	SYM_VALUE	
										X-COORD_NAD83	X
										Y-COORD_NAD83	X

Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
PLSSPoint	XCOORD	Double	X, longitude or east coordinate value for the corner.	POINTS	x						
PLSSPoint	YCOORD	Double	Y, latitude or north coordinate value for the corner.	POINTS	y						
PLSSPoint	ZCOORD	Double	Z, Height, Observed Elevation for the corner.	POINTS	z						
PLSSPoint	ELEV	Double	This is an average elevation for the entire PLSS Township.						ELEV	ELEV	
PLSSPoint	ERRORX	ShortInteger (2)	The error in the X direction.								
PLSSPoint	ERRORY	ShortInteger (2)	The error in the y direction.								
PLSSPoint	ERRORZ	ShortlInteger (2)	The error in the Z direction.								
PLSSPoint	HDATUM	String (20)	The horizontal datum for the coordinate value, this is the datum the reported coordinate value is reported in and may be different than the GIS horizontal datum.							HORZ_DATUM	X
PLSSPoint	VDATUM	String (20)	The vertical datum for an observed Z or height.								
PLSSPoint	STEWARD1	String (50)	The primary data steward for the plss point.								
PLSSPoint	STEWARD2	String (50)	The second data steward for the PLSS point if there is a second steward, such as on a county boundary or a federal ownership boundary.								
PLSSPoint	LOCAL1	String (25)	The first alias for the control point, most common on PLSS Township boundaries.								
PLSSPoint	LOCAL2	String (25)	The second local identifier or alias. Most common on corners on PLSS township boundaries.								
PLSSPoint	LOCAL3	String (25)	The third alias for the control point most common on PLSS Township boundaries.								
PLSSPoint	LOCAL4	String (25)	The fourth alias for the control point most common when a PLSS corner is common to a special survey.								
PLSSPoint	RELY	String (15)	The reliability or accuracy of coordinate value as a single entry, may be a coded value.								
PLSSPoint	COORDPROC	String (20)	The coordinate computation procedure which typically reflects the adjustment method or a standard followed to compute the coordinate from the field observation.	POINTS	coordprocedure			data differences exist: CadNSDI data is Text populated with “GMM” LD data is ShortInteger populated with “0”			
PLSSPoint	COORDSYS	String (20)	The coordinate system for the coordinate value, this may be different than the GIS coordinate system if the reported x,y values are different than the GIS coordinate system.								

Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
PLSSPoint	COORDMETH	String (25)	The method of observation or measurement for the coordinate value. This typically indicates a technology such as GPS, digitized, line of sight.	POINTS	coordmethod			data differences exist: CadNSDI data is Text populated with "Least Square Adjustment" and LD data is ShortInteger populated with "9"			
PLSSPoint	REVISEDDATE	Date	The last revision date for the coordinate value for the PLSS Corner.								
				POINTS	createdby					CREATED_BY	X
				POINTS	datecreated					DATE_CREATED	X
				POINTS	modifiedby						
				POINTS	datemodified						
				POINTS	townshipoid						
				POINTS	m0						
				POINTS	qxx						
				POINTS	qxy						
				POINTS	qxz						
				POINTS	qyy						
				POINTS	qyz						
				POINTS	qzz						
				POINTS	commentedout						
				POINTS	error_average						
				POINTS	error_maximum						
				POINTS	adj						
				POINTS	origstdev						
				POINTS	provisional						
				POINTS	systemid						
				POINTS	sid_oid						
				POINTS	orighzdatum						
				POINTS	origcoordsys						
				POINTS	origvzunits						
				POINTS	origvzdatum						
				POINTS	status						
				POINTS	origcoord						
				POINTS	origerrorunit						
				POINTS	control						
				POINTS	lsa_oid						
				POINTS	comments						
				POINTS	controllable						
				POINTS	notcontrollablereason						
				POINTS	not_point						
				POINTS	accessdeniedlist						
				POINTS	createdbycompoid						

Data Mapping of PLSS CadNSDI → To GeoCommunicator Formats

CadNSDI Feature Class	CadNSDI Attribute Name	CadNSDI Data Type	CadNSDI Description	LD Feature Class	LD Attribute Name	LSIS Feature Class	LSIS Attribute Name	Comments	GCDB v1.04 Coverage	Preprocessing Coverage	Preprocess Flag
				POINTS	visible						
				POINTS	primaryuintid						
				POINTS	pointstatus						
				POINTS	objectmethod						
				POINTS	objectprocedure						
				POINTS	objectproceduredate						
				POINTS	monumentstandard						
				POINTS	objecttype						
				POINTS	objectsubpart						
				POINTS	objectmaterial						
				POINTS	monumentcapdiameter						
				POINTS	monumentcapunit						
				POINTS	monumentcapmaterial						
				POINTS	objectdiameterwidth						
				POINTS	objectdiameterwidthunit						
				POINTS	objectheight						
				POINTS	objectheightunit						
				POINTS	objectcomments						
				POINTS	objectrelation						
				POINTS	objectrelationid						
				POINTS	bearing						
				POINTS	bearingunit						
				POINTS	distance						
				POINTS	distanceunits						
				POINTS	monumentstatus						
				POINTS	aliasname						